ABSTRACT

A method for feedback control of cooperative problem solving for real-time applications in complex systems utilizes solvers parameterized by control variables. The method includes initializing the time setting and selecting at least one solver parameter value. The solver is operated with the selected solver parameter value or values for a specified interim and the operational conditions are reviewed. A solution is transmitted to the system if a solution quality condition is satisfied. The solver continues to operate if the solution quality condition is not satisfied and the performance differential is not greater than a specified threshold. If the solution quality condition is unsatisfied, but the performance differential exceeds the threshold, at least one alternate solver parameter value is selected and the solver is operated with the new solver parameter value for a specified interim. The solver continues to operate until the solution quality condition is satisfied.